

RESEARCH PRODUCT (RP 79-12)

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HANDBOOK FOR SIGHT PICTURE TRAINING

LEVEL

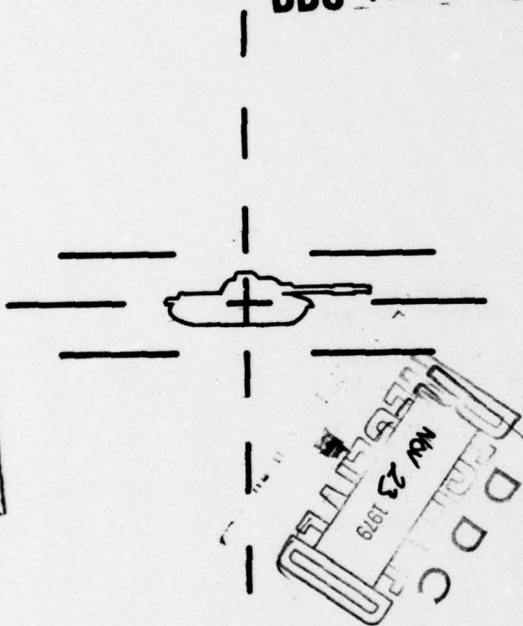
OBJECTIVE

Using this handbook, you can check how much you know about how to place sight reticles on targets in response to fire commands.

①

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for public release and sale; its
distribution is unlimited.

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U. S. Army Research Institute for the Behavioral and Social Sciences

RP 79-12

The Handbook for Sight Picture Training is a
prototype training document. For comments or
questions contact:

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(202) 274-8695

ORIGINAL
ENCLOSURE
FOR SIGHT
PICTURE
TRAINING

Unclassified

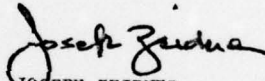
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The handbook was developed as a research instrument for research on retention of sight picture skills. It consists of instructional material on the M60A1 tank sight reticles. The material is self-paced, performance-based, and self-correcting. Soldiers place plastic reticles on targets in response to fire commands. They then examine a picture of the correct sight picture to determine if they are in error.		

FOREWORD

The Performance-Based Training Team of the Army Research Institute (ARI) performs research in the areas of acquisition and retention of skills. This product was developed in order to provide armor crewmen with sight picture skills so that retention characteristics can be determined. The final objective of the research is to determine the required frequency of training to maintain competence in critical armor skills. This product also serves as a training aid in an ongoing research project to determine the effects of introducing new training in units.

This work was performed in the Training Technical Area under Army Project 2Q62717A791, FY 80 Program.


JOSEPH ZEIDNER
Technical Director

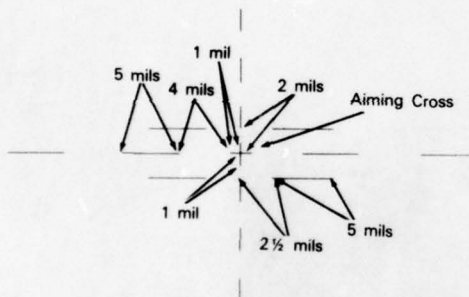
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PART I

INSTRUCTIONS

1. Part 1 reviews things that you should know about sight reticles.
2. Remove the three plastic reticles from the pocket on the last page.
3. Go on to the next page.

Periscope Reticle



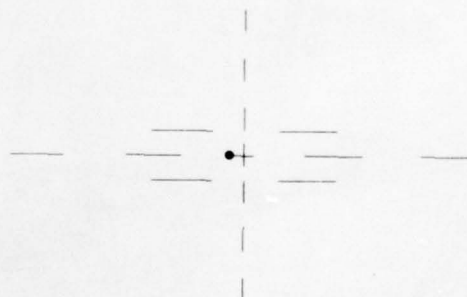
Study this picture of the periscope reticle.

If you forget some of the distances on the reticle, look back to this page.

On the following pages, read the command on the left-hand side of the page. Place the reticle, and then lift the flap to check your answer.

Using the plastic periscope reticle:
place the center of the aiming cross
1 mil to the right of the
dot below.

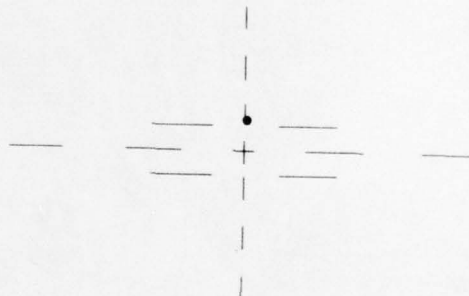
1 mil right



1. The central aiming cross is 2 mils wide and 2 mils high.
2. The distance from the center of the aiming cross to the dot is 1 mil.

Using the plastic periscope reticle:
place the center of the aiming cross
2 mils below the dot below

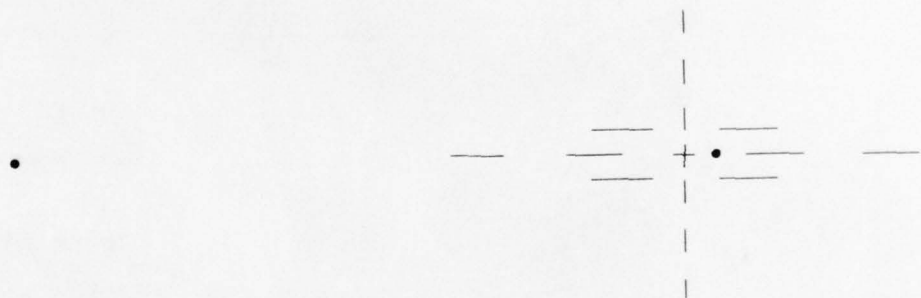
2 mils down



1. The distance from the center of the aiming cross to the dot is 2 mils.

Using the plastic periscope reticle:
place the center of the aiming
cross $2\frac{1}{2}$ mils to
the left of the dot below.

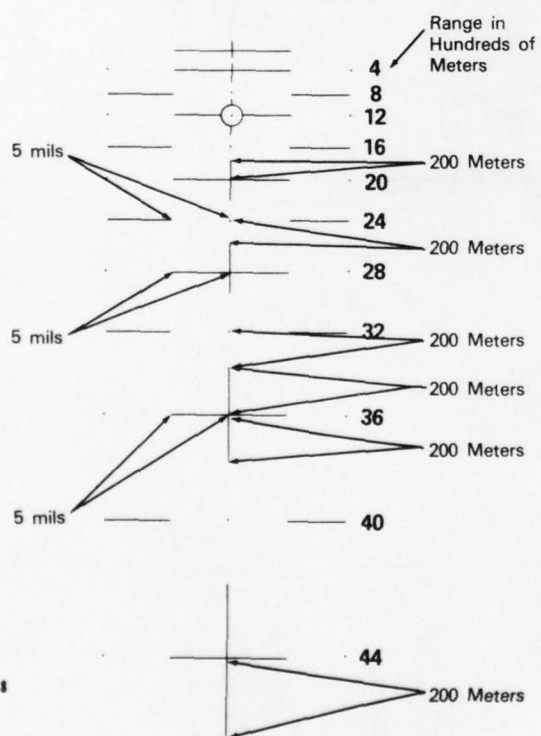
left $2\frac{1}{2}$ mils



1. The distance from the center of the aiming cross to the dot is $2\frac{1}{2}$ mils.

HEAT Reticle

HEAT-T M456



Study this picture of the HEAT reticle.

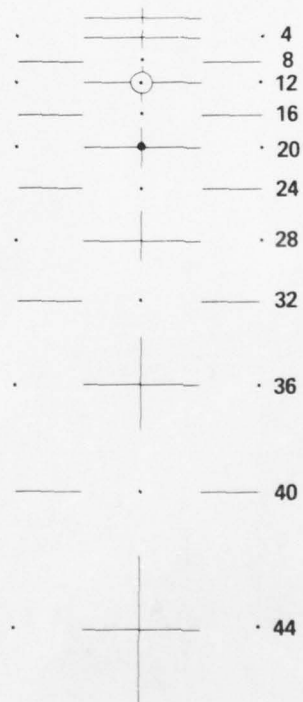
If you forget some of the distances on the reticle, look back to this page.

Now continue as before.

Using the plastic HEAT reticle:
place the center of the
2000 meter line on the
dot below.

2000 meters

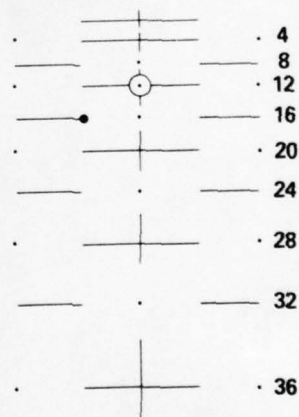
HEAT-T M456



Using the plastic HEAT reticle:
place the center of the
1600 meter line 5 mils
to the right of the
dot below.

1600 meters, 5 mils right

HEAT-T M456

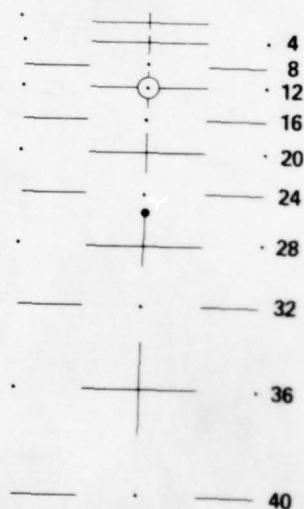


1. The lead lines on the HEAT reticle are
5 mils long.

Using the plastic HEAT reticle:
place the center of the
2800 meter line 200 meters
below the dot.

2800 meters, drop 200 meters

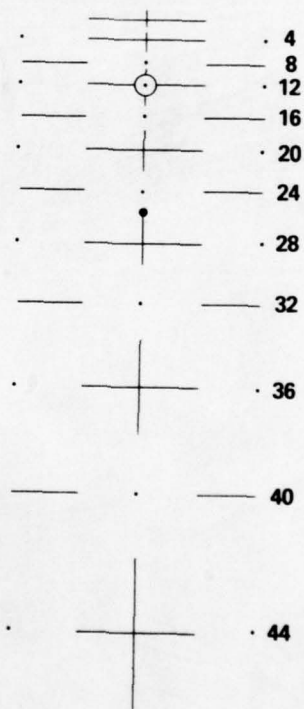
HEAT-T M456



1. The range lines on the HEAT reticle are 200 meters long.

Using the plastic HEAT reticle:
place the center of the 2600 meter
line on the dot below.

HEAT-T M456



Combined APDS and HEP Reticle

HEP Range
in Hundreds
of Meters

3.5

5.5

8

12

16

200 Meters

20

200 Meters

24

28

32

APDS Range
in Hundreds
of Meters

8

12

16

20

24

28

2 ½ mils

2 ½ mils

5 mils

5 mils

**Study this picture of the combined
APDS and HEP reticle.**

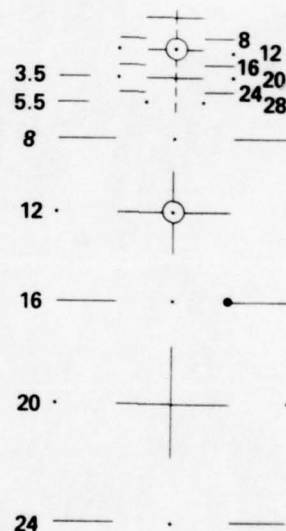
**If you forget some of the distances on
the reticle, look back to this page.**

Now continue as before.

M105D RETICLE

Using the plastic HEP reticle:
place the center of the 1600 meter
line 5 mils to the
left of the dot below.

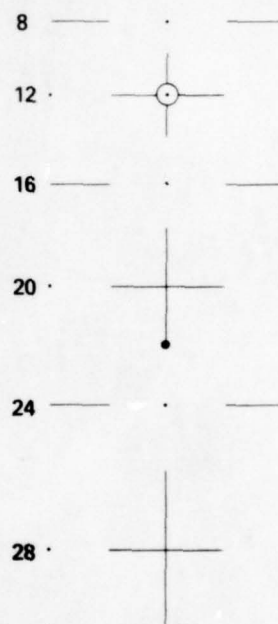
HEP, 1600 meters, 5 mils left



1. The lead lines on the HEP reticle are
5 mils long.

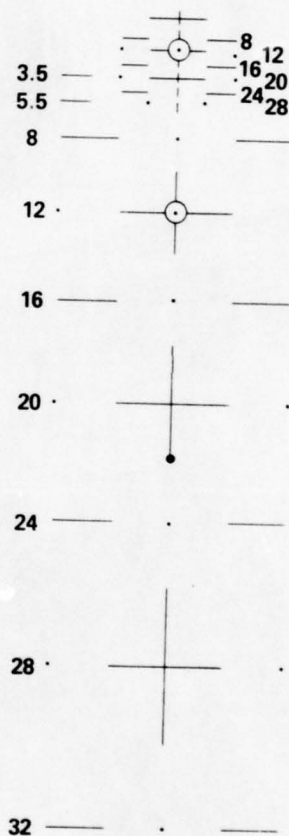
Using the plastic HEP reticle:
place the center of the 2000 meter
line 200 meters above the dot.

HEP, 2000 meters, add 200



1. The range lines on the HEP reticle are
200 meters long.

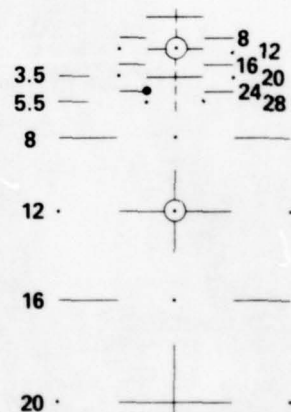
Using the plastic HEP reticle:
place the center of the 2200 meter
line on the dot below.



Using the plastic APDS reticle:
place the center of the 2400 meter
line 2½ mils to the right
of the dot below.

APDS, 2400 meters, right 2½ mils

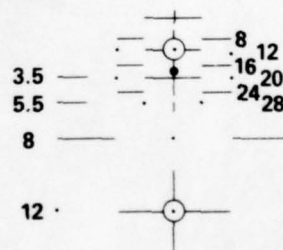
•



1. The lead lines on the APDS reticle
are 2½ mils long.

Using the plastic APDS reticle:
place the center of the 1600 meter
line 200 meters above the dot below.

APDS, 1600 meters, add 200 meters



1. The range lines on the APDS reticle are 200 meters long.

PART II

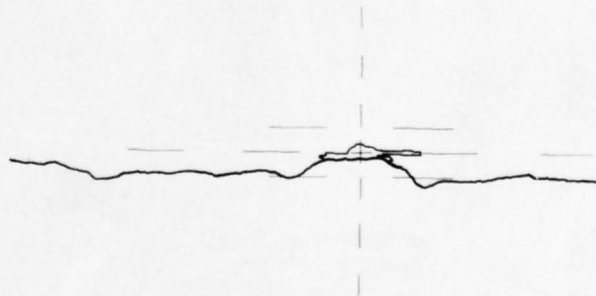
INSTRUCTIONS

1. Part II of the handbook reviews things you should know about initial sight pictures and second shot corrections.
2. On the following pages, place the reticle over the picture as you would if you were actually firing at the target. Then lift the flap to check your answer.
3. Underneath the correct sight picture there are two or three sentences describing why the sight picture is correct.

Gunner
SABOT
Tank
Fire



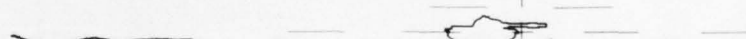
Gunner
SABOT
Tank
Fire



1. Because range is not announced, use periscope.
2. Because ammunition is announced, aim at center of visible target.

Gunner
SABOT
Moving Tank
Fire

Gunner
SABOT
Moving Tank
Fire

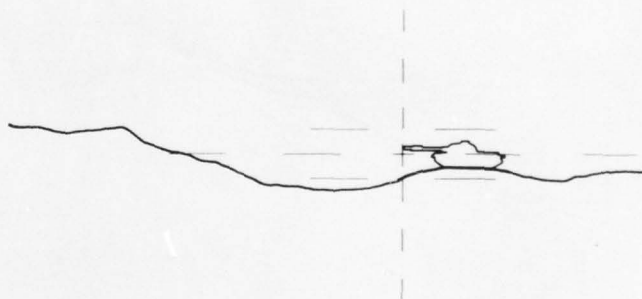


1. Because range is not announced, use periscope.
2. Because ammunition is announced, aim at center of tank.
3. When firing SABOT against a moving target, initial lead is $2\frac{1}{2}$ mils.

Gunner
HEAT
Moving Tank
Fire

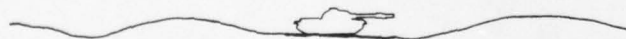


Gunner
HEAT
Moving Tank
Fire

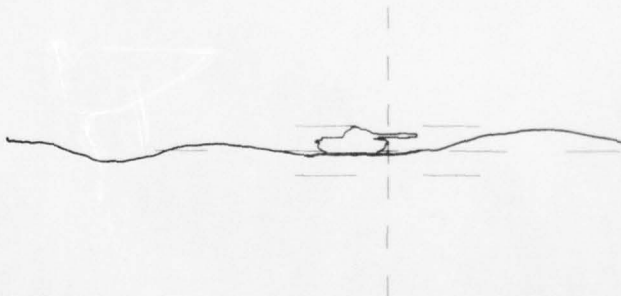


1. Because range is not announced, use periscope.
2. Because ammunition is announced, aim at center of tank.
3. When firing HEAT against a moving target, initial lead is 5 mils.

(SABOT loaded)
Gunner
Battlesight
Moving Tank
Fire



(SABOT loaded)
Gunner
Battlesight
Moving Tank
Fire

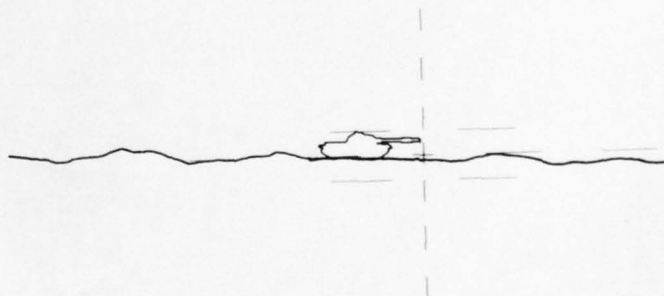


1. Because it is a battlesight engagement, aim at base of target.
2. When firing SABOT against a moving target, initial lead is $2\frac{1}{2}$ mils.
3. If APDS reticle is used, 1600 meter range line should be at base of target with same lead applied.

(HEAT loaded)
Gunner
Battlesight
Moving Tank
Fire



(HEAT loaded)
Gunner
Battlesight
Moving Tank
Fire

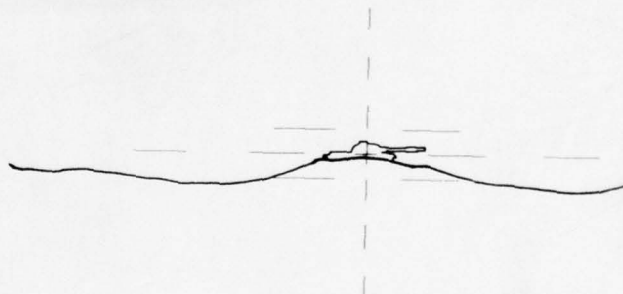


1. Because it is a battlesight engagement, aim at base of target.
2. When firing HEAT against a moving target, initial lead is 5 mils.
3. If HEAT reticle is used, 1100 meter range line should be at base of target with same lead applied.

(SABOT loaded)
Gunner
Battlesight
Tank
Fire



(SABOT loaded)
Gunner
Battlesight
Tank
Fire



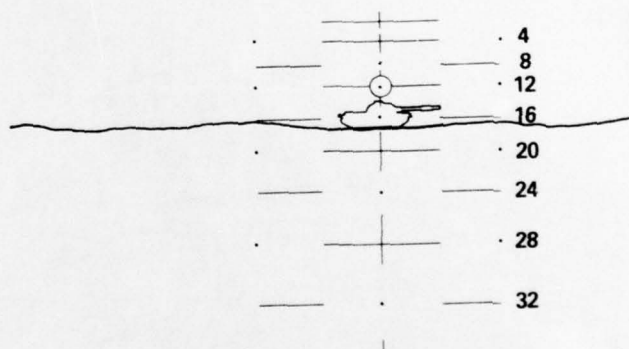
1. Because it is a battlesight engagement, aim at base of visible target.
2. If APDS reticle is used, 1600 meter range line should be at base of visible target.

(Periscope damaged)
 Gunner
 HEAT
 Tank
 1600
 Fire



(Periscope damaged)
 Gunner
 HEAT
 Tank
 1600
 Fire

HEAT-T M456



1. Because periscope is damaged, use telescope.
2. Because ammunition is announced, place 1600 meter range line at center of tank.

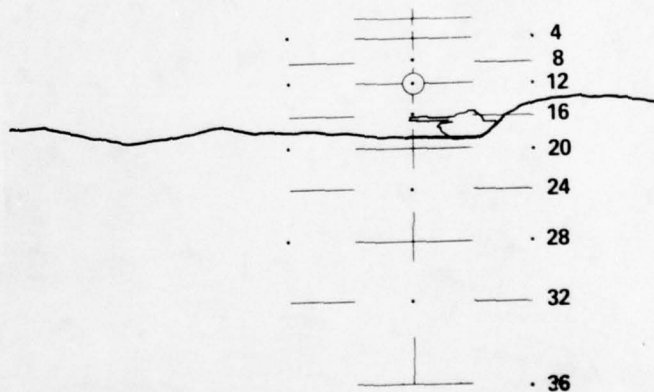
(Periscope damaged)

Gunner
HEAT
Moving Tank
1800
Fire



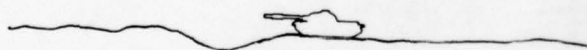
(Periscope damaged)

Gunner
HEAT
Moving Tank
1800
Fire

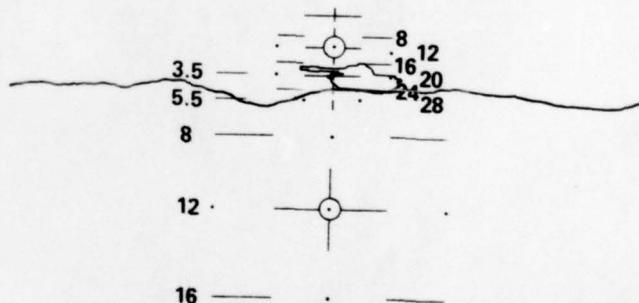


1. Because periscope is damaged, use telescope.
2. Because ammunition is announced, aim at center of tank.
3. When firing HEAT against a moving target, initial lead is 5 mils.

(Periscope damaged)
 Gunner
 SABOT
 Moving Tank
 2000
 Fire



(Periscope damaged)
 Gunner
 SABOT
 Moving Tank
 2000
 Fire

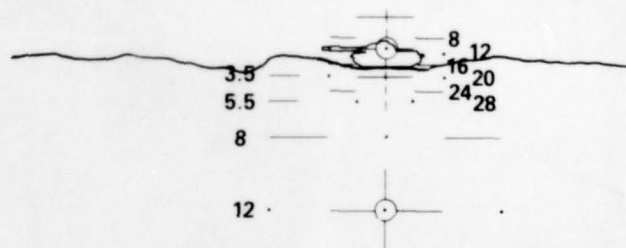


1. Because periscope is damaged, use telescope.
2. Because ammunition is announced, aim at center of tank.
3. When firing SABOT against a moving target, initial lead is $2\frac{1}{2}$ mils.

(Periscope damaged)
(SABOT Loaded)
Gunner
Battlesight
Tank
Fire



(Periscope damaged)
(SABOT Loaded)
Gunner
Battlesight
Tank
Fire



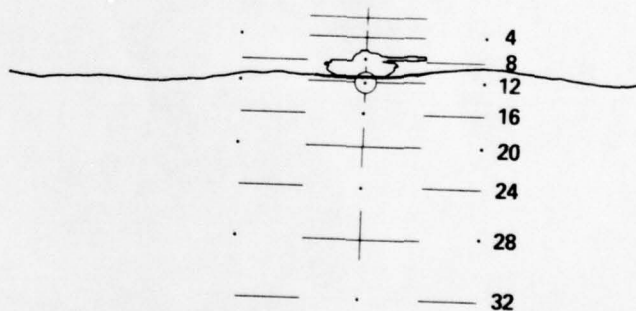
1. Because periscope is damaged, use telescope.
2. Battlesight range for SABOT is 1600 meters.
3. Because it is a battlesight engagement, aim at base of target.

(Periscope damaged)
 (HEAT Loaded)
 Gunner
 Battlesight
 Tank
 Fire



(Periscope damaged)
 (HEAT Loaded)
 Gunner
 Battlesight
 Tank
 Fire

HEAT-T M456



1. Because periscope is damaged, use telescope.
2. Battlesight range for HEAT is 1100 meters.
3. Because it is a battlesight engagement, aim at base of target.

(Periscope damaged)

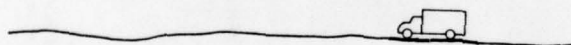
Gunner

HEP

Moving Truck

1000

Fire



(Periscope damaged)

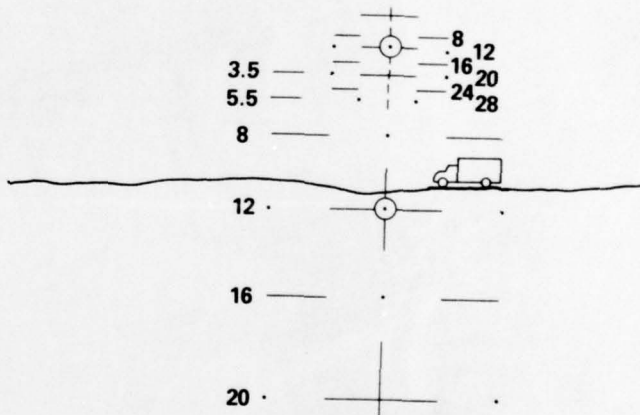
Gunner

HEP

Moving Truck

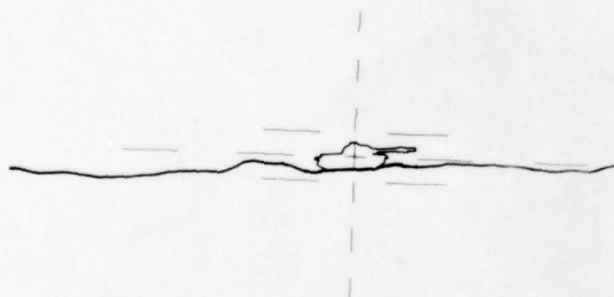
1000

Fire



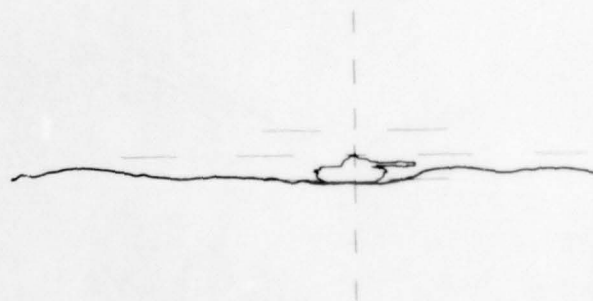
1. Because periscope is damaged, use telescope.
2. Because ammunition is announced, aim at center of target.
3. When firing HEP against a moving target, initial lead is $7\frac{1}{2}$ mils.

Short
Add 1 mil
Fire



Initial Sight Picture

Short
Add 1 mil
Fire

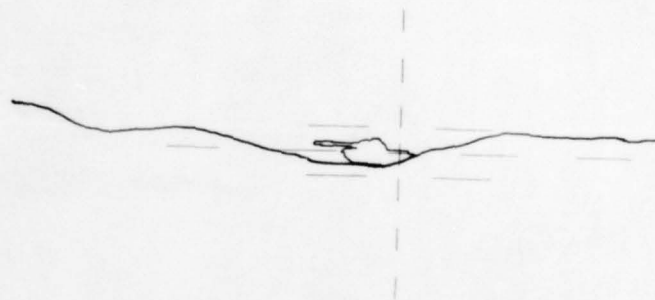
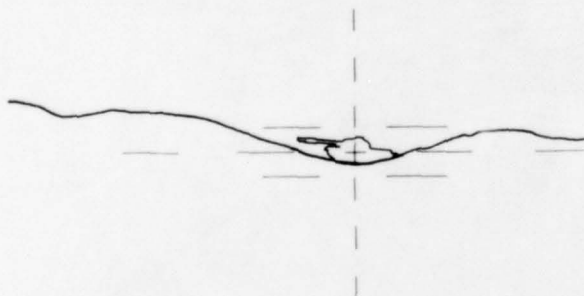


1. Raise sight 1 mil for range change.

New Sight Picture

**Doubtful
Right 2
Fire**

**Doubtful
Right 2
Fire**



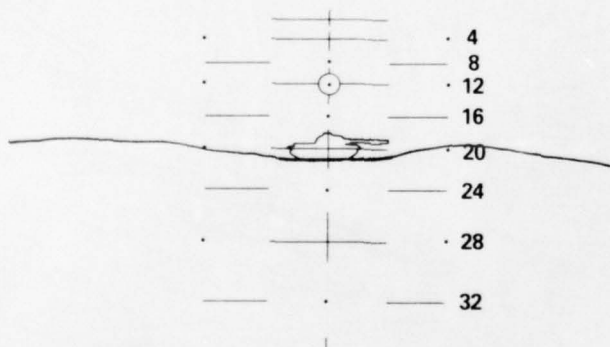
Initial Sight Picture

1. Range remains the same as on initial sight picture.
2. Move sight right 2 mils.

New Sight Picture

Short
Left 2
Add 200
Fire

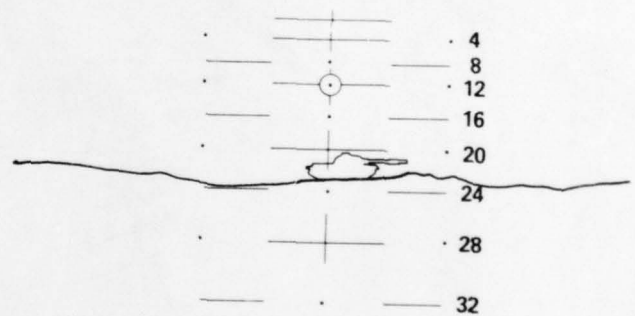
HEAT-T M456



Initial Sight Picture

Short
Left 2
Add 200
Fire

HEAT-T M456

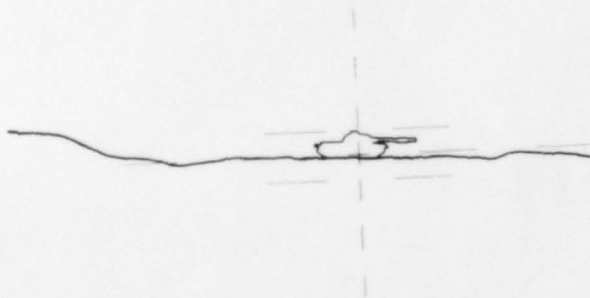


New Sight Picture

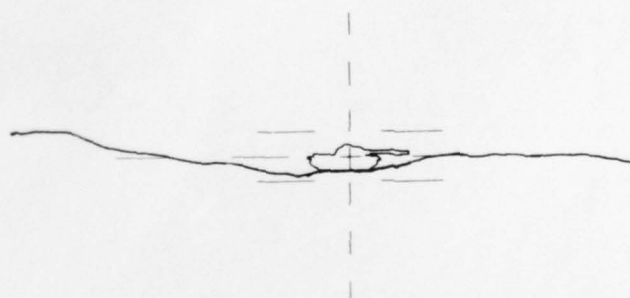
1. Use HEAT reticle as in initial sight picture.
2. Move sight left 2 mils.
3. Raise sight 200 meters. New range is 2200 meters.

Short
Add $\frac{1}{2}$ form
Fire

Short
Add $\frac{1}{2}$ form
Fire



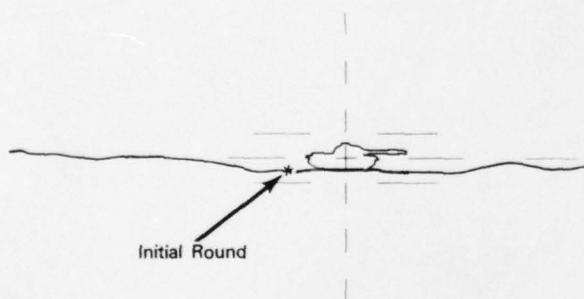
Initial Sight Picture



1. Raise sight $\frac{1}{2}$ tank form for range change

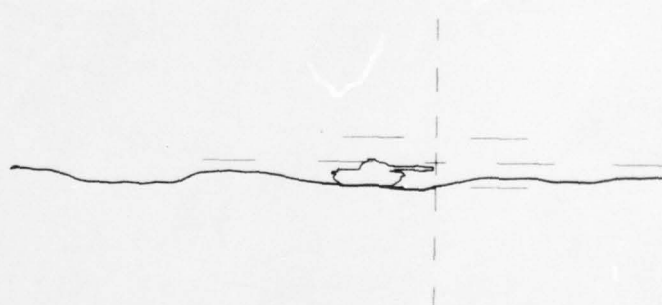
New Sight Picture

Short
BOT

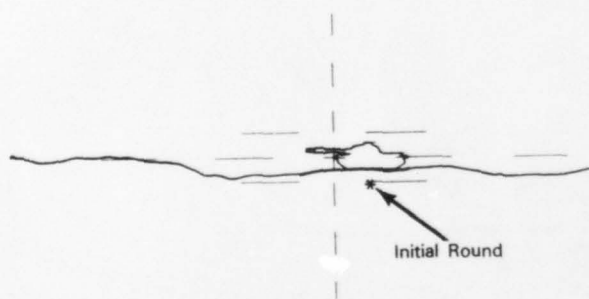


Initial Round

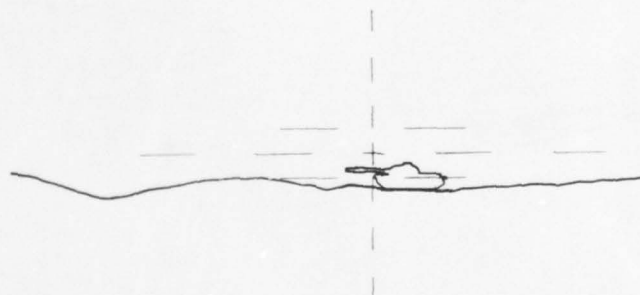
Short
BOT



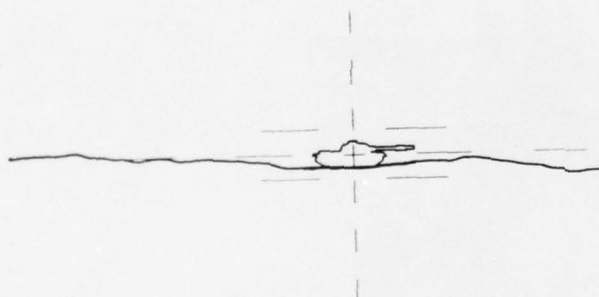
Short
BOT



Short
BOT

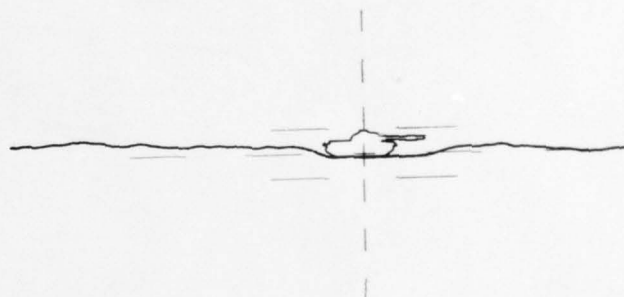


Lost
(Apply Standard Adjustment)



Initial Sight Picture

Lost
(Apply Standard Adjustment)



New Sight Picture

1. Round was lost and tank commander gave no command.
2. Apply standard adjustment.
3. Standard adjustment for a precision engagement using the periscope is drop 1 mil.

